

## Claims

[c1] What is claimed is:

1. An alpine ski, one of an identical pair, comprising:
  - (a) a basal section having
    - (i) a shovel at the front end and a heel at the tail end;
    - (ii) a bottom surface and a top surface;
    - (iii) vertical longitudinal sidewalls whose intersection with the bottom surface of the ski form first edges on each side of the bottom of the ski; and
    - (iv) a thickness  $T_B$  which at the waist ranges from 2 to 3 times that at the shovel and tail.
  - (b) an upper section termed the riser having
    - (i) a top surface with a boot fixation area intermediate in elongate extent and a bottom surface that overlies said basal section between said shovel and said heel;
    - (ii) sidewalls on each side, said sidewalls being curved surfaces that are convex upward, said surfaces having a uniform curve from the front of the riser to the rear of the riser, and intersection of said riser sidewalls with the top of the riser forming second edges on each side of the top of the ski; and
    - (iii) a thickness  $T_R$  given by the equation

$$[(SC_1 - SC_2) \tan \alpha - T_B]$$

wherein

$SC_1$  is the side cut of the first edges of the ski, measured perpendicularly from a vertical plane tangent to the ski at the shovel and heel,

$SC_2$  is the side cut of the second edges of the ski, measured perpendicularly from a vertical plane tangent to the ski at the shovel and heel,

Alpha is the smaller of the two angles formed by an edge line drawn tangent to the first edge and second edge, and a surface line drawn parallel to the bottom surface, said edge and surface lines being in a common vertical plane, said vertical plane being perpendicular to the longitudinal axis of the ski.

- [c2] 2. The ski according to claim 1 wherein angle alpha is between 70 and 85 degrees.
- [c3] 3. The ski according to claim 1 wherein angle alpha is greater than the expected combined angle comprising slope angle and the angle of angulation of the ski by the skier.
- [c4] 4. The ski according to claim 2 wherein side cuts of the first edges reproduce a segment of the arc of a circle or similar conic section with principal radius of 10 to 25

meters and wherein side cuts of the second edges reproduce a segment of the arc of a circle or similar conic section with principal radius of 30 to 50 meters.

- [c5] 5. The ski according to claim 2 wherein the width of the top surface at the shovel is between 1.4 and 1.45 times the width of the top surface of the ski at the waist, and wherein the width of the top surface at the heel is between 1.2 and 1.3 times the width of the top surface of the ski at the waist.
- [c6] 6. The ski according to claim 1 wherein the sides of the riser are surfaces cut at a constant angle beta of between 55 and 70 degrees, beta being the smaller of the two angles formed by an edge line drawn tangent to the top and bottom of the riser, and a surface line drawn parallel to the bottom surface of the riser, said edge and surface lines being in a common vertical plane, said vertical plane being perpendicular to the longitudinal axis of the ski.